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ABSTRACT

Commitment to teaching excellence is enhanced when innovative and creative methods are introduced into the education setting. With today's rapidly changing technology, professional and presentation software can be used to improve the learning process. At Florida's Stetson University, professional estate, gift, and fiduciary software packages were combined with text material, role playing, and research activities in a graduate tax course to enhance the students' learning experience. The software stimulated interest and allowed students to focus on concepts rather than the repetitive mechanical process of preparing tax forms. The best situation for use of the software is if students have access to home computers, install the necessary software on the home computer, and have all of the software manuals. The second best plan would be to install the program in the university's computer labs and distribute copies of the manuals to students. Another area in which the University is experimenting is the use of presentation software for class lectures to ease preparation of visual aids and provide well-structured lectures. By embracing commercial software, instructors can find programs which will ease some of their workload, create a better learning environment, and prepare their students for entry into the real world. (TGI)

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Using Professional Software To Enhance Teaching Excellence

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USING PROFESSIONAL SOFTWARE TO ENHANCE TEACHING EXCELLENCE

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Abstract

Commitment to teaching excellence is enhanced when innovative and creative methods are introduced into the education setting. This presentation illustrates how professional and presentation software is used in an educational environment to enhance the learning experience. This approach, applied in both post-graduate and continuing professional education classes, reinforces concepts, stimulates interest, and reduces repetitive efforts by students. Student/teacher mentoring is also an ingredient of the project.

Introduction

The desire to impart knowledge and wisdom has existed since the time of early civilized man. Yet, the methods of sharing information have changed dramatically. With today's rapidly changing technology, computer hardware and software innovations can now enhance the learning process in ways never dreamed of by our ancestors. It is our view that commitment to teaching excellence is enhanced when innovative and creative methods are introduced into the educational setting.

Our paper demonstrates how professional and presentation software can be used in the educational environment to improve the learning experience. This approach applied in both post graduate and continuing professional education classes reinforces concepts, stimulates interest, and reduces repetitive efforts by students.

Professional estate, gift, and fiduciary software packages developed by Shepard McGraw-Hill were introduced into a graduate tax course. This course is designed to help students develop the knowledge of a highly specialized area of the U. S. tax code and help develop skills that the students will use as they enter a professional career in public accounting. A secondary objective of the course is to enhance the students' abilities to succeed on the national CPA exam. When combined with text material, role playing, and research activities, the professional software did enhance the students' learning experiences. The software was useful, because it allowed the student to focus on the concepts rather than the repetitive mechanical process of preparing the tax returns. It also stimulated interest, because the students knew they may very well be using this software package, or one similar to it, when they enter professional practice.

The software was also used in a continuing professional education (CPE) setting where accountants and attorneys return to the classroom to update their skills on current topics and technology. The software was demonstrated in the classroom and then the practitioners moved to a lab environment where they actually used the software in the solving of tax problems. Response from the professionals was very positive. They were pleased with the ease of use and the skills they gained during the conference.

New presentation graphics currently being used by professors and students in the classroom can also greatly improve the learning experience. First, it helps the presenter better organize and plan the presentation. Secondly, because it is visual, it may help the audience retain the information for a longer period of time. Presentation software, such as Freelance Graphics, can be used in combination with current hardware, such as the Notebook Computer, high intensity overhead projectors, and colored LCD panels to make effective presentations at professional meetings such as the National Conference on Successful College Teaching. When the presentation is clear, orderly, and interesting, the over-all learning experience for the students can be greatly improved.

The Software

When we chose to use the Shepard's/McGraw-Hill Software, there were several contributing factors to our decision.

The major contributing factor was the similarities between the different pieces of software. This underlying similarity is in the user interface.

In the business community, the major computers being used are Intel based MS-DOS (IBM compatible) machines. Unlike the Macintosh, or more recently Windows, the user interface for each DOS program tends to be designed solely for that particular program. This entails the student learning the unique commands for each program. As an example, saving a file in WordPerfect requires pressing the F10 key, while the identical command in Lotus 1-2-3 is accomplished by pressing the following keys in sequence: /, F, and S.

By adopting three programs from the same vendor, the students were confronted by only one user interface. The lessons learned using one program were immediately applicable to the next program.

All three programs present the student with identical Originate menus. The student can, from this menu, choose to either start a new tax return or edit an existing tax return. The other options are usually not applicable to a classroom environment, and were not discussed with the students.

When creating new tax returns, and when editing existing tax returns, the student is shielded from the Disk Operating System. It is not necessary for the student to understand the intricacies of file name constraints, extensions, subdirectories, paths, etc. Rather, the student either just enters the name and year of the tax return if creating a new return, or chooses the correct return from a list. It is easier for the student to look for William W. Ryan 1992 on the list of existing gift tax returns, than to remember that the correct files are located in the following directory: C:\FGT\FGTFILES\FGT1.FGT. In fact, the only knowledge of DOS required to run these programs is to type fgt, fit, or fet at the C:> prompt. If the programs are installed on a computer running Windows, it is very easy for the computer support staff to create icons to run the programs from within Windows.

Another feature adding to their ease of use of the programs is the adoption of some features of modern Graphical User Interfaces (GUI). Research done by Xerox at their Palo Alto Research Center resulted in a new paradigm of computer user interfaces. This research was used in the design of modern GUIs, such as the Macintosh, Windows, OpenLook (unix), SunView (sparc), NeXT, and other interfaces too numerous to mention.

Many of the options given to the student require an additional small series of choices. One example is found within the Originate menu choice "System configuration" of the Shepard's software. After selecting System configuration, a small box appears in front of the Originate menu in which the student selects which part of the system configuration will be modified: the Data disk drive selection, the Printer configuration, or the Screen configuration. If the Screen configuration is chosen, another box appears on top of the previous screen upon which the student can select from two additional choices: Select display colors or Select graphics mode. For an additional example, one can examine the choices given when adding items onto a subsidiary schedule. First one chooses to work with a subsidiary schedule, and a small box appears in front of the menu requesting additional input. This method of choosing options is becoming the defacto standard among all GUIs, and most students will be familiar with it from other programs with which they work.

However, the majority of the options the student will face will be from an extensive menu. The Federal Estate Tax program's Main menu includes 24 different choices, ranging from Decedent Information (which the student will need to work with) to preparation of State Returns (which the student will not need to work with).

The use of a menu system has two advantages. First, by listing all of the options available, the student can use the menu as a check list: "What should I do next?" In addition, there are no hidden commands for the student to memorize. One example of hidden commands can be found in WordPerfect. If you wish to add a non-standard character to a document such as "¶", you must press the Ctrl key, followed by a V. This action will bring a menu from which you can choose the character you wish to insert into the document, assuming that the student has memorized this entire process. By utilizing on-screen menus, the student can use the program, rather than memorizing cryptic codes.

A tax form is a collection of different items, dollar amounts, etc. If the student is presented with a random series

of facts and wishes to place them on the tax form, a clerical job is created. The student must organize each item onto the page of the form on which it is to appear. If an item appears on two separate places, additional difficulties are created. Later, when new items appear, they may affect the placement and calculation of the old items. By utilizing a computer which will reorganize the items and recalculate totals when there are changes, the student is shielded from the clerical level of the work and can spend the time researching the tax issues and exercising judgement.

The student can also, at any time, examine the tax form which will be generated by the program. This possibility allows the student to examine the effects of incremental changes made. By examining these changes, the student can see first hand the structure of the laws.

The program also will produce high quality output. The student whose handwriting suffers will not be at a disadvantage compared to the student whose handwriting is impeccable. The instructor will be able to easily see which student understands the material, and which student does not.

Lessons Learned

We have utilized this software in two different classes to date. In so doing, we have discovered a few lessons on the use of commercial software within a classroom setting.

The best situation for use of the software is if the student has access to a home computer, installs the necessary software on the home computer, and has all of the software manuals. This situation has not been an option for our classes. Stetson University does not require its students to own a personal computer. Even if Stetson required a personal computer be owned by the students, there is no guarantee that every student would choose an MS-DOS model. In addition to the computer access situation, much commercial software is priced too high for the average student. It may be possible to get an educational price for the institution's purchase of the software, while the software publisher may hesitate to sell copies of its software to students.

The second best plan would be to install the program in the university's computer labs, and distribute copies of the manuals to the students. While the installation of the software in the university's computer labs was feasible, the distribution of the manuals was not. The Federal Estate Tax Returns manual alone constituted 442 pages.

The plan of action which we used was the following: First, we installed the programs in the university's computer labs. We also installed a copy in the departmental secretary's computer so that the students would be able to make laser printed outputs. We created a 10 page handout for the students which walked the student through a typical assignment. Finally, a copy of the manual was placed on reserve in the student computer laboratory. In this fashion, the student became familiar with the structure of the program with their own copy of the class handout, and still had access to the full set of manuals.

The class handout should be complete enough for the student to work through the entire problem. If possible, screen images should be included in the handout. If you are not sure if some small detail should be included, it probably should. Do not assume that the student has any prior knowledge.

The software was primarily used during the course of a final project. The students were given partial information on a descendent's estate, and were given instructions to complete an estate tax return. The students were able to input the information they were aware of and used the software to discover at least some of the missing information required. The students were given the opportunity to interview the family, lawyer, and other individuals with pieces of the missing information. Each piece of information was then added to the student's data file. The results of this simulation of a real world tax problem would be a completed tax return. Throughout the entire process, the software proved invaluable during the remainder of the course.

In the future, we also plan to spend at least one day in class demonstrating the program. While this will take away from the time spent on the subject matter, the resulting familiarity with the software should prove beneficial during the remainder of the course.

Presentation Software

Another area in which we are experimenting is in the use of presentation software for class lectures. The use of presentation graphics software such as Freelance Graphics for Windows has the following advantages: ease of preparation of visual aids and well-structured lectures.

Images, charts, lists, text, etc., can be placed upon a transparency with great ease. When working with this software, you are instructed to "Click here to insert title," "Click here to insert a graph." There is almost no need to refer to the manual to create standard slides.

In addition, the order of the slides can be easily changed. The preparation of the individual slides and the ordering of them are two separate tasks, and each can be changed as the class requirements change.

Once slides are prepared using presentation software, the next step is to skip the preparation of hard copy. It is now feasible for the instructor to prepare the slides on the computer, and then use the same computer to generate the image directly to a liquid crystal display (LCD) unit on an overhead projector. By displaying the slides in this fashion, one no longer must deal with physical transparencies. One can change the slice (either forward or backward) by pressing a button on the mouse. By utilizing the mouse, the instructor is no longer required to stand by the overhead when changing slides. In addition, the waste involved in creating transparencies is lessened.

The cutting edge of presentation of software includes the use of color LCD panels in conjunction with multimedia. Color LCD panels are still expensive, but as more people purchase them, the price will drop to the point where there is little financial incentive to use the black and white LCD panels. The latest generation of presentation software includes multimedia capabilities. It is possible to include sounds and video clips into a single slide.

Cross Disciplinary Uses

The use of commercial software is not limited to the business arena. Currently, it is difficult to imagine writing a term paper without a word processor. Most word processors include spell checking programs as well as outliners, a thesaurus, and a grammar checker. An on-line dictionary (with definitions), as well as libraries of quotes, are also available to help students with their papers.

Other programs which are currently being used by students include spreadsheets and presentation graphics programs. However, these programs tend to be used only by business students, even though their capabilities can be easily used by the sciences as well.

This presentation only skims the surface of available commercial software. In mathematics there are several programs which are beginning to be used for educational uses: Maple, Mathematica, MatLab for symbolic manipulation as well as SPSS and Minitab for statistical analysis. The future will also include the use of CD-ROM databases, CAD-CAM programs such as Autodesk, and other commercial software. Lastly, the use of the Internet for educational purposes can only increase.

By embracing commercial software, instructors can find programs which will ease some of their workload, create a better learning environment, and prepare their students for entry into the real world.

In summary, we feel that exposing the students to professional software, as well as integrating the use of the software into the student's coursework, will reap large dividends. The students will be able to use the tools provided to increase their comprehension of difficult material. This paper has only scratched to surface of an area which can be profitably mined for years to come.